

# Q1 FY20 Registration Review Overview for OCSPP AA

| Draft Risk Assessments (Bold = briefing, Underline = Fact Sheet, Nothing = Summary) |   |
|---|---|
| Antimicrobials:   | Fenpropimorph   |
| Conventionals:  | <u>1,3-D</u> , <u>Propargite</u> , <u>Spiromesifen</u> , Spirodicolfen, Thiophanate-methyl, Carboxin, Triallate, Napthalene Acetic Acid, Triticonazole, Famoxadone (eco only) |
| Biopesticides:  | None for this quarter   |

| Proposed Interim Decisions (Bold = briefing, Underline = Fact Sheet, Nothing = Summary) |   |
|---|---|
| Antimicrobials:   | Alkylbenzene sulfonates (ABS), <u>Chlorine gas</u> ,  |
| Conventionals:  | <b>Neonicotinoids (Clothianidin, Dinotefuran, Imidacloprid, Thiamethoxam)</b> , <b>Triazines (Atrazine, Propazine, Simazine)</b> , <b><u>Pyrethroids (d-Phenothrin, Prallethrin, Tefluthrin)</u></b> , <u>Acetamiprid</u> , <u>Coumaphos</u> (Revised PID), <u>DMS</u> , <u>Methyl Bromide</u> , <u>TPTH</u> , 2,4-DP-p, Bromacil, Etofenprox, Formetanate, MCPA, Thiabendazole, Thiencarbazone-methyl (3-fer Workplan/DRA/PID) |
| Biopesticides:  | Fatty Acid Monoesters with Glycerol or Propanediol, Kaolin, Aliphatic Alcohols C6-C16, <i>Bacillus pumilus</i>  |

| Interim Decisions (Bold = briefing, Underline = Fact Sheet, Nothing = Summary) |  |
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| Antimicrobials:  | Alkyl imidazolines, o-Benzyl-p-chlorophenol, TTPC, Zinc and Zinc Salts   |
| Conventionals:   | <b><u>Glyphosate</u></b> , <u>Coumaphos</u> , <u>Diquat dibromide</u> , <u>Starlicide</u> , 2,4-DB, Aliphatic solvents, Bromoxynil, Buprofezin, Diflubenzuron, Dikegulac sodium, Fluthiacet-methyl, Hydramethylnon, Imazalil, Lime sulfur, Linuron, Lufenuron, Pyridaben, Trifluralin, Uniconazole, Zoxamide |
| Biopesticides:   | Octenol, PMD [Paramenthane 3,8-diol], 3-[N-butyl-N-acetyl]-aminopropionic acid, ethyl ester (IR3535), 3-Methyl-2-cyclohexen-1-one (3-MCH), <i>Chondrostereum purpureum</i> , Straight Chain Lepidopteran Pheromones (SCLPs)  |

# **Q1 Conventional DRA Fact Sheets**

## **1,3-Dichloropropene (Telone) Registration Review DRAs**

### **BACKGROUND**

1,3-D is a non-selective soil fumigant registered for preplant use with a range of agricultural and non-agricultural crops and for post-plant use in vineyards. The main agricultural crops include: strawberries, peppers, tobacco, carrots, potatoes, and tomatoes. There are no residential uses. From 2013-2017, usage averaged 33,755,000 pounds active ingredient (a.i.) applied annually on 320,000 acres. Application rates and number of acres treated with 1,3-D have increased over time. 1,3-D is considered to have high benefits because it effectively controls nematodes leading to improvements in crop production and reduced management time to grow a crop. Alternatives for 1,3-D are other soil fumigants. 1,3-D is a Restricted Use Pesticide and may only be applied by certified applicators or under the supervision of a certified applicator. The Reregistration Eligibility Decision (RED) for 1,3-D was completed in 1998.

### **ACTION**

The Draft Risk Assessments (DRAs) for 1,3-D are scheduled to be signed by the end of 2019. The next steps in the process include public comment on the DRAs, the Preliminary Interim Registration Review Decision and the Interim Registration Review Decision. Final agency action on 1,3-D is over a year away; however, we believe each step in this process will receive public attention.

# **Deliberative Process / Ex. 5**

## **Propargite Registration Review DRAs**

### **BACKGROUND**

Propargite is an organosulfite acaricide registered for use on a variety of field, fruit, nut, and vegetable crops, as well as on conifers/evergreens and field grown/nursery ornamentals. There are no residential uses registered for propargite.

### **ACTION**

EPA anticipates completing the Registration Review Draft Risk Assessments (DRAs) for propargite by December 2019 and releasing them for public comment soon afterwards. The next steps in the process include development of the Proposed Interim Decision (PID) with consideration of the public comments received on the DRAs, the PID's release for public comment is in 2020, and the development and release of the Interim Decision (ID) is in 2021.

# **Deliberative Process / Ex. 5**

## **Spiromesifen Registration Review DRAs**

### **BACKGROUND**

Spiromesifen is an insecticide/miticide used mainly for the control of plant-feeding mites and whiteflies. Spiromesifen is used on a variety of crops and landscape ornamentals and may be used by homeowners and professionals in residential settings. Crop uses include corn, cotton, strawberries, potatoes, leafy greens, tomatoes, peppers, and cucumbers.

Crops with the greatest usage are corn (40,000 lbs ai/year), potatoes (10,000 lbs) and strawberries (7,000 lbs) to. Strawberries are the crop with the greatest percent crop treated, at 35 to 50 percent. Lawn care professionals use an average of about 6,000 lbs ai/year.

### **ACTION**

The registration review Draft Risk Assessments (DRAs) for spiromesifen are scheduled to be completed by December 2019 and will be available for public comment soon after. As the human health DRA was being developed, HED re-examined the toxicology database for spiromesifen and identified the need for comparative thyroid data. In the absence of these data, a safety factor of 10X has been applied for the chronic dietary, residential, and occupational risks assessments for spiromesifen, resulting in some risks of concern. The Agency is currently working with Bayer to determine a path forward.

The ecological DRA indicates that there are potential acute and chronic risks of concern for fish and aquatic invertebrates, chronic risks of concern for mammals, and chronic risks of concern for both larval and adult honey bees. Spiromesifen is associated with some incidents for terrestrial plants, and although the association is inconclusive, beekeepers have reported colony effects in honey bees as well.

Following release of the spiromesifen DRAs and the comment period on the assessments, the Agency will develop the PID. The public release of the spiromesifen PID is currently scheduled for Q4 of FY2020, followed by the Interim Decision (ID) in Q2 FY2021 and the subsequent submission of revised product labels as needed to implement the ID.

# **Deliberative Process / Ex. 5**

## Q1 Conventional DRA Summaries

Carboxin: Release draft human health and ecological risk assessment. Carboxin and oxycarboxin are fungicides used as seed treatments (carboxin) or foliar applications (oxycarboxin) on a variety of agricultural and ornamental crops. Potential ecological risks of concern were identified for nontarget birds and mammals. The human health risk assessment is scheduled for Dec 2019. Residential, non-occupational spray drift, and occupational post-application exposures are not anticipated from the registered uses of carboxin and oxycarboxin. For occupational handlers, risks of concern were identified for 9 inhalation exposure scenarios (8 carboxin and 1 oxycarboxin) that could be mitigated with addition of a PF10 respirator. Anticipated stakeholder reaction: Minimal stakeholder feedback is anticipated.

Famoxadone: Release draft ecological risk assessment. Famoxadone is a fungicide registered for use on caneberries, grapes, and several vegetable crops to control bacterial and fungal diseases. Potential ecological risks of concern were identified for nontarget birds and mammals, fresh and saltwater invertebrates, and freshwater fish. Additional human health data are under development; the human health risk assessment is scheduled for Sept 2020. Anticipated stakeholder reaction: Minimal stakeholder feedback is anticipated.

NAA: Release draft human health and ecological risk assessments. Napthalene acetic acid (NAA), its salts, ester, and acetamide (six active ingredients) are being assessed as a group for the purposes of registration review. The NAA compounds are plant growth regulators used to thin pome and citrus fruit; control sprouting of citrus; delay leaf drop in ornamentals, such as holly; and promote rooting in plant propagation. No human health risks of concern are anticipated. Potential ecological risks of concern are anticipated for terrestrial plants. Anticipated stakeholder reaction: Minimal stakeholder feedback is anticipated.

Spirodiclofen: EPA is not completing a new risk assessment for this chemical since the registrants have requested voluntarily cancellation. The effective cancellation date is December 31, 2020 for registrants to sell and distribute products containing this spirodiclofen (82 FR 60985, 12/26/17). Anticipated stakeholder reaction: Minimal stakeholder feedback is anticipated.

Triallate: Release draft human health and ecological risk assessments. Triallate is a preemergence selective herbicide in the thiocarbamate class. Products containing triallate are registered for use in Bermuda grass grown for seed or hay, beans and peas, barley, triticale, sugar beets, and wheat. Target weeds include wild oats, ryegrass, pigeon grass, and brome grass. The human health assessment is scheduled for Dec 2019 and no human health risks of concern are anticipated. Potential ecological risks of concern were identified for mammals, non-target monocot plants (particularly grasses) in terrestrial and wetland habitats, and estuarine/marine invertebrates. Anticipated stakeholder reaction: Minimal stakeholder feedback is anticipated.

Triticonazole: Release draft human health and ecological risk assessments. Triticonazole is a fungicide registered for use as a seed treatment for cereal grains, and for non-agricultural uses. No human health risks of concern have been identified. Potential ecological risks of concern were identified for birds, mammals, fish, estuarine/marine invertebrates, and bees. Anticipated stakeholder reaction: Minimal stakeholder feedback is anticipated.

Thiencarbazone-methyl: Release Combined Preliminary Work Plan/Human Health and Ecological Risk Assessments/Proposed Interim Decision. See PID section below.

## **Q1 Antimicrobial DRA Summaries**

Fenpropimorph: Release draft human health and ecological risk assessment. Registered for use as a wood protectant to control sapstain, mold and decay on green or freshly cut lumber and products (e.g., logs, poles, posts, composts and wood chips). The human health assessment is scheduled for Dec 2019 and there may be occupational risks of concern for inhalation and dermal exposures. Risks to aquatic or terrestrial organisms are not expected due to a limited exposure potential. Anticipated stakeholder reaction: Minimal stakeholder feedback is anticipated.

# **Q1 Conventional PID Fact Sheets**

## **Acetamiprid Registration Review PID**

### **BACKGROUND**

Acetamiprid is a cyano-substituted neonicotinoid insecticide with a wide range of registered uses for controlling a broad spectrum of insect pests in a variety of agricultural and residential settings. It has a high profile due to its association with the nitroguanidine-substituted (N-S) neonicotinoids (thiamethoxan, clothianidin, dinotefuran, and imidacloprid), which are themselves of high profile because of their associated risks to non-target insects, including honey bees. The agency identified risks of concern from registered uses of acetamiprid to aquatic and terrestrial invertebrates (including honey bees), birds, mammals, and terrestrial plants; however, the risk quotient (RQ) exceedances identified for acetamiprid are many times lower than those identified for N-S neonicotinoids and acetamiprid is considered a safer alternative to them.

The neonicotinoids had historically been considered good alternatives to many insecticides because of the overall lesser risk profile for human health. The agency identified potential risks of concern to mixers, loaders, and applicators from application of liquid and wettable powder formulations of acetamiprid to the basal bark of landscaping trees, shrubs, and bushes using backpacks.

### **ACTION**

The proposed interim decision (PID) for acetamiprid is scheduled for December 2019. The PID will outline proposed label changes for mitigating the identified human health and ecological risks of concern. Because the mitigation proposal for acetamiprid is modeled after those for the N-S neonicotinoids, publication of the acetamiprid PID is scheduled to coincide with publication of the N-S neonicotinoids PIDs.

# **Deliberative Process / Ex. 5**

- Increased personnel protective equipment (PPE) for handlers of acetamiprid using backpacks to apply liquid and wettable powder formulations as basal bark treatment to landscaping trees, bushes, and shrubs

*Key stakeholder issues*

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- EPA anticipates our PID will be available for public comment in 2020 and a final ID in 2021.



## Coumaphos Registration Review Revised PID

### BACKGROUND

Coumaphos is a member of the organophosphate (OP) insecticide class that primarily affects the nervous system through cholinesterase (ChE) inhibition. Coumaphos is registered to control arthropod pests on beef and dairy cattle, goats, horses, sheep and swine by sprays, dips, and dust as well as by a strip in bee hives. Coumaphos can be applied directly to animals and their bedding. Coumaphos is important in the USDA APHIS Cattle Fever Tick Eradication Program (CFTEP) along the Texas/Mexico border to control cattle fever tick and prevent cattle fever from spreading into the United States.

Since the Proposed Interim Decision (PID) was published, EPA has been made aware of multiple potential on-going lapses with following label instructions by USDA Animal and Plant Health Inspection Service (APHIS) (e.g., PPE, product misuse, improper disposal) as well as several uses identified by USDA and the technical registrant, Bayer Animal Health (BAH) that were not originally evaluated in the risk assessments (e.g., spray-box and ATV-mounted sprayer uses). USDA and other coumaphos users have interpreted the end-use labels to allow variations in application methods which EPA was not aware of until after the PID.<sup>1</sup> EPA is in the process of determining how best to evaluate and manage these issues.

### ACTION

The agency is completing an addendum to the Human Health Draft Risk Assessment (DRA) and Revised PID for coumaphos. The revised PID and DRA are intended to address several new issues that have arisen since the PID was published in 2018. Following a public comment period, the agency will complete an Interim Registration Review Decision.

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<sup>1</sup> FIFRA § 2(ee) allows the use of other application methods not prohibited on the label if other label directions are followed (e.g., use site, application rate).

# **Deliberative Process / Ex. 5**

## Pyrethroids (Prallethrin, Tefluthrin, d-Phenothrin) Registration Review PIDs

### BACKGROUND

Pyrethroids/pyrethrins are a class of insecticides which includes a total of 24 chemicals. Pyrethrins are botanical insecticides derived from chrysanthemum flowers and pyrethroids are synthetic versions of pyrethrins. These broad-spectrum chemicals target a wide range of pests in both agricultural and non-agricultural settings. Agricultural uses include: rice, alfalfa, sunflowers, soybeans, wheat, tree nuts, vegetables, and other crops. Non-agricultural uses include: public health mosquito abatement programs, indoor and outdoor residential/commercial and industrial spaces and structures, pets, clothing, and medical and veterinary products. For several crops, pyrethroids provide key pest management efficacy for multiple pests that have few or no viable alternatives. Additionally, there are few conventional pesticide alternatives for mosquito control. Pyrethroids are potential alternatives to more toxic chemistries like organophosphates and carbamates. OPP briefed OCSPP IO on the pyrethroids in June 2019.

### ACTION

- The Registration Review Proposed Interim Decisions (PIDs) for five pyrethroids were completed in September 2019 and were recently approved to be released for public comment.
- PIDs for an additional three pyrethroids are ready to be completed in December 2019 and subsequently released for public comment. These 3 pyrethroids pose no human health risks of concern and do not require pollinator mitigation based on their use profiles.
- The Pyrethroids and Pyrethrins Ecological Risk Mitigation Proposal (applicable to all the pyrethroids), which primarily addresses the potential risks to aquatic invertebrates, was completed in September 2019 and also will soon be released for public comment.
- OPP has **not** finalized its mitigation proposal to address the risk to pollinators from the agricultural uses of pyrethroids. However, a proposal to address potential pollinator risks of concern is being developed and OPP will be presenting options by the end of the year.

# Deliberative Process / Ex. 5

# **Deliberative Process / Ex. 5**

## **Soil Fumigants (DMDS and Methyl Bromide) Registration Review PIDs**

### **BACKGROUND**

The soil fumigants include chloropicrin, dazomet, dimethyl disulfide (DMDS), metam sodium and potassium, methyl bromide, 1,3-dichloropropene (1,3-D), and furfural. The soil fumigants are used as biocides to control a wide variety of soil pests, including weeds, insects and nematodes, and soil pathogens. Soil fumigant products are registered for agricultural uses and some non-agricultural uses but there are no direct residential uses. There are dual antimicrobial uses as materials preservatives for chloropicrin, dazomet, metam sodium and metam potassium.

All soil fumigants are Restricted Use Pesticides and may only be applied by certified applicators or under the supervision of a certified applicator. Amended Reregistration Eligibility Decisions (REDs) were completed for most of the soil fumigants in 2009.

### **ACTION**

By the end of 2019, the agency plans to complete the Proposed Interim Registration Review Decisions (PIDs) for chloropicrin, dazomet, DMDS, metam sodium and potassium, and methyl bromide. The next step in the process will be public comment on the PIDs. Since the agency is currently reassessing the carcinogenicity of 1,3-D and is scheduled to complete the human health risk assessment by the end of 2019, the PID for 1,3-D is not scheduled until late 2020. The risk assessment and PID for furfural are not yet scheduled.

# **Deliberative Process / Ex. 5**

## **Triphenyltin Hydroxide (TPTH) Registration Review PID**

### **BACKGROUND**

TPTH is a non-systemic, organotin fungicide with secondary anti-feeding properties for surface feeding insects. Products containing TPTH are registered to control early and late blight of potatoes, leaf spot in sugar beets, and pecan scab. All TPTH products are Restricted Use Products that only certified pesticide applicators or workers under their supervision can apply. TPTH is registered for use on agricultural use sites only; it is not labeled for use on non-agricultural use sites and there are no products registered for application in residential areas. Based on data from 2005 – 2014, an average of 190,000 pounds of TPTH are applied annually on pecans (100,000 lbs. a.i. applied per year), sugar beets (70,000 lbs. a.i. applied per year), and potatoes (20,000 lbs. a.i. applied per year). TPTH use on sugar beets has declined since the registration of alternative fungicides over the past few decades.

### **ACTION**

The Registration Review Draft Risk Assessments (DRAs) for TPTH were published in November 2018 for public comment. The next steps in the process include the Proposed Registration Review Interim Decision by the end of 2019 and the Interim Registration Review Decision in late 2020.

# **Deliberative Process / Ex. 5**

## Q1 Conventional PID Summaries

2,4-DP-p: Release Proposed Interim Decision. 2,4-DP-p is a systemic, broad-spectrum chlorophenoxy herbicide. It is used to control a variety of weeds in residential, commercial, institutional, and industrial areas. It has no registered agricultural or food/feed uses. There are no human health risks of concern. Potential ecological risks of concern were identified for mammals, birds, pollinators, and terrestrial plants. Proposed mitigation focuses on reducing potential ecological risks by proposing mandatory and advisory spray drift language, resistance management language, a groundwater advisory statement, and a non-target organism statement. Aerial application will also be prohibited, in continuation of current label restrictions. Anticipated stakeholder reaction: No significant stakeholder reaction is expected.

Bromacil: Release Proposed Interim Decision. Bromacil is a broad-spectrum herbicide used to control for broadleaf weeds in agricultural and non-agricultural lands. Bromacil is registered for use as a soil treatment on citrus and as a post-harvest application on pineapple, and also for use on uncultivated areas, farmyards, fencerows and barrier strips. The human health risk assessment identified potential occupational risks of concern from aerial application and mechanically pressurized handgun application for citrus and pineapple. Potential ecological risks of concern were identified for terrestrial and aquatic plants, mammals, and birds. Proposed mitigation includes prohibiting aerial and mechanically pressurized handgun applications, and mandatory spray drift language. Anticipated stakeholder reaction: No strong reaction is anticipated from stakeholders at this time. The registrants have agreed to the proposed mitigation, and the cancelled application methods were not important for bromacil.

Etofenprox: Release Proposed Interim Decision. Etofenprox is a pyrethroid-like ether compound registered as an insecticide. It is registered for use on multiple sites which include indoor and outdoor areas in residential and commercial settings, on companion animals, on agricultural sites such as rice, and for wide-area mosquito control. There is also an etofenprox registered product that is a garment/textile that has been factory-treated with etofenprox for use in military uniforms. The Agency identified residential and occupational human health risks and ecological risks of concern. The proposed mitigation for the ecological risks of concern is part of the single risk mitigation proposal for the ecological review of the 23 pyrethroids which will ensure a consistent approach to mitigating potential ecological risk and provides equity to stakeholders when implementing regulatory changes for chemicals in this group. The Agency is working with the registrant on mitigation for the human health risks of concerns. The discussion includes limiting application to crack and crevice for residential risk and additional PPE and/or rate reductions for occupational risks. The registrant is currently working on a Comparative Thyroid Assay (CTA) study to refine the risk assessment. Anticipated stakeholder reaction: Stakeholder would have an interest in the results of the CTA study and it's effects on the risk.

Formetanate: Release Proposed Interim Decision. Formetanate HCl is a *N*-methyl carbamate miticide/insecticide registered for use on citrus, nectarines, and alfalfa grown for seed. Potential human health risks of concern were identified from the following exposure scenarios: dietary (acute only), non-occupational spray drift exposure, occupational handler and occupational post-application exposure. Formetanate persists under acidic conditions. The highly refined dietary assessment identified potential risks to infants and children for groundwater associated with acidic soils. Potential worker risks of concern are associated with mixing and loading for broadcast application methods (groundboom, airblast, and aerial application), the most commonly used application scenarios. Ecological risks of concern were identified for freshwater and terrestrial invertebrates, mammals, and birds. Proposed mitigation will include label language prohibiting use in areas with acidic soils, the addition of a respirator for water soluble packets (WSP) for groundboom and airblast application, and potentially the removal of aerial application for alfalfa

grown for seed (refinement still in progress). Anticipated stakeholder reaction: May receive feedback on the removal of aerial application for alfalfa grown for seed (if proposed) and the addition of a respirator for WSP.

MCPA: Release Proposed Interim Decision. MCPA is a selective, post-emergence systemic herbicide used to control annual and perennial broadleaf weeds in agricultural and non-agricultural use sites. Potential risks of concern were identified for occupational handler scenarios. Potential risks of concern were identified for birds, mammals, and plants from the current registered uses of MCPA. EPA is proposing mitigation to address the occupational risks *e.g.*, additional PPE and application method deletion where alternate application methods are available and impacts to growers is expected to be minimal); and mitigation to address ecological risk to non-target eco risks/exposure (*e.g.*, drift reduction and herbicide resistance measures). Anticipated stakeholder reaction: The MCPA task force has been active throughout registration review, and EPA expects them to continue to be active in the public process.

Thiabendazole and salts: Release Proposed Interim Decision. Thiabendazole is a systemic fungicide with both antimicrobial and conventional uses. Thiabendazole is registered for use on mushroom crops, for seed treatment uses, and for post-harvest or bulb-dip treatments on various agricultural crops. The salt, thiabendazole hypophosphite, is registered for use as a tree injection. Antimicrobial uses of thiabendazole include use as a materials preservative in adhesives, coatings, paper, textiles, and paints. Potential human health risks of concern were identified for certain occupational exposures from conventional and antimicrobial uses. For ecological risk, potential risks of concern were identified from conventional uses for seed-eating birds and mammals. A down-the-drain screening-level analysis of the antimicrobial uses shows potential risks to aquatic organisms. Occupational risks of concern from conventional uses resolve with the addition of a respirator. Occupational risks of concern from antimicrobial uses resolve with a reduction in the use rate. Anticipated stakeholder reaction: Based on the stakeholder feedback provided on the DRAs, we expect interest from stakeholders on the PID. Respirators are not included on current labels. As a result, stakeholders may comment on the addition of respirator language.

Thiencarbazon-methyl: Release Combined Preliminary Work Plan/Human Health and Ecological Risk Assessments/Proposed Interim Decision. Thiencarbazon-methyl (TCM) is a systemic pre-and post-emergent acetolactate synthetase (ALS) inhibitor herbicide registered to control broadleaf weeds and grasses on corn, wheat, soybean, turf, and ornamentals. There were no human health risks of concern identified for TCM, however potential terrestrial and aquatic plant risks of concern were identified in the draft ecological risk assessment. To address the potential ecological risk to plants, EPA is proposing to require spray drift and resistance management language and a non-target organism statement. As part of a streamlined approach, and based on the minimal risk associated with TCM, EPA is opening the public docket for TCM registration review and releasing a combined preliminary work plan/proposed interim decision along with the draft risk assessments. Anticipated stakeholder reaction: Minimal stakeholder feedback is anticipated.



# **Q1 Antimicrobial PID Fact Sheets**

## **Chlorine Gas Registration Review PID**

### **BACKGROUND**

Chlorine gas is used to treat commercial and industrial cooling towers, municipal water supplies and treatment plants, sewage and wastewater management plants, pulp and paper mills, commercial and industrial swimming pools, agricultural irrigation systems, fruit and vegetable washes, and public water systems. The PID will propose a label cleanup initiative designed to ensure critical elements of all pesticide labels (that are currently missing on some chlorine gas labels) are on these product labels, such as use rate, use sites, PPE, directions for use. The label cleanup will also propose that citations of Chlorine Institute Pamphlets include specific version and year references. Current pamphlet citations do not refer to a specific version, which can lead to the possibility of updates to pesticide use information in the pamphlets by a third-party organization without EPA oversight.

### **ACTION**

The proposed interim decision (PID) for chlorine gas is scheduled for Dec. 2019. The PID will not propose mitigation since neither human health nor ecological risks were identified in the DRA. The PID will outline proposed label changes aimed at aligning chlorine gas labels with the standard requirements of pesticide labels and the label changes required by the Reregistration Eligibility Decision (RED), published in 1999.

# **Deliberative Process / Ex. 5**

## **Q1 Antimicrobial PID Summaries**

Alkylbenzene sulfonates (ABS): Release Proposed Interim Decision. There are 6 products registered with PC code 098002 and 3 products with PC code 079010. There are 350 end-use products registered that contain ABS as an inert. The use patterns of products that contain ABS as an active include fruit and vegetable washes and cleaners and sanitizers in residential and commercial areas including food and non-food areas. Inert uses of ABS are in agricultural settings, food handling premises, medical premises, commercial/institutional/industrial settings, and residential settings. A tolerance exemption was recently completed through PRIA. The human health risk assessment results indicate minimal risk due to low acute and chronic toxicity for all routes, although there are potential short-, intermediate-, long-term exposures via occupational handler inhalation. The ecological risk assessment results indicate minimal risk to nontarget organisms due to low to moderate toxicity and minimal exposure. Anticipated stakeholder reaction: No mitigation is being proposed in the PID; therefore, minimal stakeholder feedback anticipated. Registrant reaction is likely to be positive due to newly established tolerance exemption at a higher limit, allowing growth for uses of this chemistry in the future.

## Q1 BPPD PID Summaries

Kaolin: Release Proposed Interim Decision. Kaolin is a naturally occurring clay that is registered for use as an insecticide, fungicide, and as a plant growth regulator. It is registered for use on a variety of food crops, ornamentals and turf to control insects and powdery mildew, and to protect against heat stress and sun damage. It is registered for both agricultural and residential uses as well as being used extensively in cosmetics, healthcare products, and as a food additive. No human health or ecological risks were identified. No mitigation or labeling changes are needed for the registration review of Kaolin. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

Fatty Acid Monoesters with Glycerol or Propanediol: Release Combined Final Work Plan and Proposed Interim Decision. Products containing Fatty Acid Monoesters with Glycerol or Propanediol (FAM) are registered for both antimicrobial and biopesticide uses. The registered biochemical uses are for use on food and feed crops before harvest to protect against mites, and after harvest to prevent microbial damage during storage. The registered antimicrobial uses of FAM are as a preservative in industrial and institutional products including: oils, lubricants, solvents, non-potable/nonfood water systems, detergents, cleaners, and surfactants; and as a disinfectant/sanitizer for residential use on hard non-porous, non-food contacting surfaces. The fatty acid monoesters work by disrupting microbial and mite membranes and likely strips the cuticles of the insect/microbe. No mitigation or labeling changes are needed for the registration review of FAM. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

Aliphatic Alcohols C6-C16: Release Proposed Interim Decision. Aliphatic Alcohols C6-C16 includes 1-decanol, 1-octanol, lauryl alcohol, and fatty alcohol blends of aliphatic alcohols C6-C16. Aliphatic Alcohols C6-C16 are registered for use as a chemical pinching agent to control sucker shoots; as a lepidopteran pheromone/sex attractant and as a sprout eliminator. The registered products containing Aliphatic Alcohols C6-C16 are only used at agricultural sites and commercial storage facilities for tubers and bulbs. No human health or ecological risks were identified. No mitigation or labeling changes are needed for the registration review of Aliphatic Alcohols C6-C16 Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

*Bacillus pumilus*: Release Proposed Interim Decision. The *Bacillus pumilus* case includes 3 strains: QST 2808, GHA180, and BU F-33 which are used as microbial pesticides to defend plants against plant pathogens. All strains claim protection against pathogenic fungi. Two of the strains claim their pesticides elicit systemic acquired resistance in plants from pathogens including: viruses, fungi and bacteria. Strain GHA180 also claims to suppress fungus gnats and thrips in growing medium and soil. The use sites of the registered *Bacillus pumilus* strains include: commercial seed treatment, growing media treatment, and agricultural use sites. There are no human health risks of concern. No ecological risks of concern were identified. No human health or ecological risks were identified. No mitigation or labeling changes are needed for the registration review of *Bacillus pumilus*. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

# **Q1 Conventional ID Fact Sheets**

## **Diquat Dibromide Registration Review Interim Decision**

### **BACKGROUND**

Products containing diquat dibromide are registered for use as herbicides and algaecides and are formulated as soluble concentrates and ready to use liquids. Registered uses of diquat dibromide products include aquatic herbicides for the control of invasive and nuisance weeds in ponds, lakes, and other waterbodies, as landscape herbicides to control broadleaf and grassy weeds on golf courses, residential lawns, and around ornamentals, as agricultural herbicides used in between rows to control weeds in vegetable crops, orchards, and farm structures, and as desiccants to aid the harvest of crops such as potatoes and canola.

Many residential and homeowner diquat products are co-formulated with glyphosate, dicamba, or other herbicides. Diquat acts quickly to show visible effects on weeds, while the co-formulated active ingredients provide a complete kill that may only be obvious later.

### **ACTION**

The Interim Decision (ID) for diquat dibromide is scheduled to be completed by December 2019 and will be published soon after, followed by the submission of revised product labels as needed for implementation. The PID for diquat was published in September of 2017, and the ID will include several updates to the mitigation proposals included at that time.

**Deliberative Process / Ex. 5**

## **Glyphosate Registration Review Interim Decision**

### **BACKGROUND**

Glyphosate is a broad-spectrum, non-selective, systemic herbicide registered for use on >100 agricultural crops as well for use in greenhouses, residential areas, aquatic weed control, and commercial settings. It is also registered for use on glyphosate-resistant crop varieties including corn, soybean, canola, cotton, sugar beets, and wheat. The highest usage is on glyphosate-resistant corn and soybean. There are approximately 565 products registered and 280 million lbs/yr applied in US agricultural settings. Most applications of glyphosate in agricultural row crop settings occur at lower rates, i.e. below 3.75 lb ae/A.

### **ACTION**

The Registration Review DRAs for glyphosate were published in 2017 followed by the PID in May 2019. The next step in the process includes the Registration Review ID in December 2019 (estimated).

EPA will also monitor the situation of regulatory dissonance between federal and Californian law. CA requires glyphosate products to have a Prop 65 cancer warning statement. In an 8/7/2019 letter, EPA informed glyphosate registrants it considers such statements to be “false and misleading” and not in compliance with FIFRA.

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## Starlicide Registration Review Interim Decision

### BACKGROUND

Starlicide, also known as DRC-1339, is an avicide registered for use to control predatory and nuisance birds, including ravens, starlings, crows, pigeons and certain gull species, in non-food and non-crop areas. It is not registered for use in residential or public recreational areas. It is classified as a restricted use pesticide due to its high acute toxicity to birds and the need for highly specialized applicator training. Starlicide products are for retail sale to and use only by United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) certified applicators trained in bird control or by persons under their direct supervision. All labels currently require pre-baiting of target birds and post-treatment bait clean-up to reduce exposure to non-target organisms.

### ACTION

The Interim Decision (ID) for starlicide is scheduled to be completed in December 2019.

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[ HYPERLINK

"https://usepa.sharepoint.com/sites/ocspp\_Work/pesticideregistrationreview/Schedules/Federal%20Regis  
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%20Drafts%20FY20/Q1/Q1%20FY20%20Registration%20Review%20Overview%20for%20OCSP%20AA.doc  
x" \l "\_ftnref1" \h ] Interim Report of Congress on Endangered Species Act Implementation in the Pesticide

Evaluation Program; [ HYPERLINK "https://www.epa.gov/sites/production/files/2015-

07/documents/esareporttocongress.pdf" \h ]; accessed October 8, 2019

## **Q1 Conventional ID Summaries**

2,4-DB Interim Decision: Release Interim Decision. 2,4-DB is a systemic herbicide registered for use on peanuts, alfalfa, soybeans, trefoil and conservation reserve program (CRP) land. The 2,4-DB human health risk assessment did not identify human health risks of concern. The 2,4-DB ecological risk assessment identified potential risks of concern for non-target terrestrial plants and mammals. The 2,4-DB Proposed Interim Decision was published in 2019 and included measures to reduce spray drift and promote weed resistance management, which the registrants agreed to implement. Anticipated stakeholder reaction: The stakeholder reaction to the 2,4-DB Proposed Interim Decision was minimal, and it is anticipated that the stakeholder feedback to the 2,4-DB Interim Decision will also be minimal.

Aliphatic Solvents: Release Interim Decision. Products containing aliphatic solvents are registered to control insects and mites on field and orchard crops, ornamentals, turf, and other non-crop areas. Products also are registered for use as mosquito larvicides. Aliphatic solvents also have a wide range of non-pesticidal uses, including as inert ingredients in other pesticide registrations. No human health toxicological points of departure have been established and there are no human health risks of concern. Potential risks of concern have been identified for aquatic invertebrates and other non-target taxa. To mitigate these potential risks of concern, the agency is requiring that labels include environmental hazard statements and advisory spray drift management language. Registrants agreed to the registration review mitigation. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

Bromoxynil: Release Interim Decision. Bromoxynil and its esters (octanoic and heptanoic) are a selective, contact, foliar-applied herbicide used to control a variety of broadleaf weeds. Products containing bromoxynil are registered for use in a wide array of both agricultural and non-agricultural settings. There are no residential uses. The DRAs identified potential risks of concern for occupational handler exposure, occupational post-application exposure, and non-occupational spray drift exposures in addition to. ecological risks of concern to mammals, birds, terrestrial plants, terrestrial plants, and freshwater invertebrates. Mitigation measures in the PID included: increased restricted entry intervals (REIs) for certain crops, engineering controls, and mandatory spray drift language. The PID also proposed reducing buffers to residential areas, reducing the REI for sod, updating herbicide resistance management language, and clarifying maximum annual application rates for certain uses. There are no changes to the mitigation since the PID. The registrants have agreed to the label changes. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

Buprofezin: Release Interim Decision. Buprofezin is a foliar insecticide applied to control homopteran pests. Products containing buprofezin are registered for use on cotton and ornamental plants, as well as a variety



of food/feed crops. There are no residential uses. There are potential human health risks of concern to occupational handlers and from post-application exposure and non-occupational spray drift exposure along with potential ecological risks of concern to birds, mammals, and terrestrial plants. Mitigation includes mandatory spray drift language, removal of select application methods, increased re-entry intervals, and additional personal protective equipment. The sole technical registrant agreed to most of the proposed mitigation measures. Anticipated stakeholder reaction: Minimal stakeholder attention is expected because the mitigation required in the ID is likely to be similar or less restrictive than that which was proposed.

Diflubenzuron: Release Interim Decision. Diflubenzuron is an insect growth regulator used to control molting insect pests in both agricultural and nonagricultural settings. Diflubenzuron is an important management tool for integrated pest management (IPM) and has minimal impacts on natural enemies and adult pollinators. There are no human health risks of concern; however potential risks of concern were identified for non-target aquatic invertebrates and honeybees during their larval life stages. Mitigation for these risks includes mandatory spray drift language and maintaining existing buffers required in the RED. Anticipated stakeholder reaction: Registrant, industry and grower reaction is expected to be positive.

Dikegulac sodium: Release Interim Decision. Dikegulac sodium is a plant growth regulator with products registered for use on ornamentals, nursery crops, and trees to reduce growth, flowering, and/or fruit set and to favor bushier growth forms of plants and trees. It has no food, residential, or indoor uses. The agency did not identify human health risks of concern from registered uses of dikegulac sodium. Potential risks of concern were identified for terrestrial plants growing in semi-aquatic environments and for larval honeybees on a chronic basis; however, limited use patterns and low usage are expected to result in low environmental exposure. Moreover, the pollinator assessment is uncertain given limitations in the modeled environmental concentrations, especially considering that application of dikegulac sodium is intended to reduce or eliminate bloom. No mitigation is required in the ID. Anticipated stakeholder reaction: Minimal stakeholder reaction anticipated.

Fluthiacet-methyl: Release Interim Decision. Fluthiacet-methyl is a thiadiazole herbicide registered to control post-emergent broadleaf and velvet leaf weeds by rapidly inhibiting the protoporphyrinogen-oxidase enzymes leading to cell membrane damage in susceptible weeds. It is a light-dependent peroxidizing herbicide (LDPH). Products containing fluthiacet-methyl are registered for use on corn (field, pop, and sweet), cotton, and soybean. No human health risks of concern were identified. There are potential ecological risks of concern to terrestrial plants. Risk to birds, mammals, and aquatic organisms are not expected from the registered uses of fluthiacet-methyl. Mitigation measures include advisory spray drift label language, non-target organism label statement, and herbicide resistance management label language. The registrants have agreed to the label changes. Anticipated stakeholder reaction: Minimal stakeholder reaction anticipated since no comments were received on the PID.

Hydramethylnon: Release Interim Decision. Hydramethylnon is an insecticide registered for use to control ants, cockroaches, termites, and other insect pests in agricultural and non-agricultural settings, including residential areas. There are no human health risks of concern. There are potential risks, primarily from broadcast applications of granules, to bees, birds, mammals, and aquatic organisms. However, exposure potential is expected to be low as granular baits are highly attractive to target insects, primarily ants, and expected to be rapidly transported back to ant nests and, therefore, unavailable for consumption by non-target organisms or for runoff to aquatic habitats. The agency is requiring several label changes to clarify how and when hydramethylnon products may be used and to bring consistency across product labels. For broadcast applications, the agency is requiring the addition of an annual maximum number of applications and a minimum retreatment interval. Anticipated stakeholder reaction: Registrant, industry, and user reaction is expected to be positive.

Imazalil and Imazalil Sulfate: Release Interim Decision. Imazalil and imazalil sulfate are systemic imidazole fungicides used to control mold and fungus through post-harvest treatment of citrus and to disinfect poultry and turkey egg hatchery equipment prior to introduction of eggs. Potential human health risks of concern were identified for dietary (cancer), occupational handler (cancer and non-cancer), and occupational post-application (cancer) scenarios. In the PID, the agency proposed requiring additional PPE and increased ventilation for hatchery post-occupational handlers, additional PPE for hatchery occupational handlers, and engineering controls for citrus occupational handler scenarios. Comments on the PID lead the agency to refine the citrus occupational handler cancer assumptions. If these changes in assumption are confirmed, the agency plans to remove the engineering control requirements. The agency is planning to require the mitigation outlined above for hatchery workers. The agency did not find any ecological risks of concern for any terrestrial taxa, including pollinators, and anticipates no significant aquatic exposure.

Anticipated stakeholder reaction: Registrant, industry, and many special interest groups (e.g., California Citrus Quality Council) reactions are expected to be positive. Human health organization (e.g., Environmental Work Group) reaction is expected to be negative unless new usage assumptions resolve the cancer concerns. For the hatchery use mitigation, the registrants agreed to the mitigation in the PID.

Inorganic Polysulfides (aka Calcium Polysulfide or Lime Sulfur): Release Interim Decision. Lime sulfur is a fungicide with multi-site activity against target fungi, and with secondary activity as an insecticide and acaricide. Products containing lime sulfur are registered for control of powdery mildews on various agricultural crops and ornamentals, and for control of mites and scab disease on livestock. There are no residential uses. There are no human health risks of concern, and risks to terrestrial and aquatic animals are unlikely. Some exposure and risk to terrestrial plants is possible from spray drift. The Proposed Interim Decision (PID) was published in 2019 and included several proposed label changes: standardized non-target organism advisory label language regarding potential phytotoxicity and updates to existing label language intended to reduce spray drift. The technical registrants agreed with the proposed mitigation. The PID also proposed generic label changes to promote pesticide (fungicide/insecticide/acaricide) resistance management.

Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

Linuron: Release Interim Decision. Linuron is a pre- and post-emergence herbicide used to control broadleaf and grassy weeds. Products containing linuron are registered for use in a variety of agricultural crops and in forestry (hybrid poplars), non-crop weed control (non-cropland areas including roadsides and fencerows), and post-harvest areas. There are no residential uses. The human health risk assessment identified potential risks of concern for occupational handler exposure, occupational post-application exposure, and non-occupational spray drift exposures. The ecological risk assessment identified potential risks of concern to mammals, birds, aquatic and terrestrial plants, freshwater benthic invertebrates and freshwater fish. The PID was published in 2019 and proposed a variety of mitigation measures to address the human health and ecological risks of concern: deletion of all non-crop and post-harvest use sites from all registrations, deletion of certain field crops from dry flowable product labels (while maintaining those crop uses on liquid product labels), reductions to application rates for some use sites, prohibition of handheld applications for most use sites and chemigation applications for certain use sites, additional PPE or engineering controls for certain use sites, mandatory spray drift management measures, and increased restricted entry intervals (REIs) for certain crops. The PID also proposed generic label changes to promote herbicide resistance management and to update gloves statements. The registrants agreed to the proposed mitigation measures.

Anticipated stakeholder reaction: Registrant, industry, and grower reaction is expected to be minimal (based on the number of comments received on the PID). However, some grower groups may have concerns with the mitigation.

Lufenuron: Release Interim Decision. Lufenuron is an insect growth regulator with end-use products formerly registered for use as termiticides. The PID was issued in March 2019. At this time, the registrations of all lufenuron end-use products have been cancelled, at the request of the registrant, although the registrant elected to keep its registration for the technical product. Previously, the agency found no human health or ecological risks of concern for lufenuron given the limited potential for exposure. EPA also made a No Effect/No Habitat Modification for listed species. The ID will not require any risk management measures. The only comment submitted on the lufenuron PID was a generic comment from the Center for Biological Diversity. Anticipated stakeholder reaction: The agency does not expect any stakeholder reaction to the ID.

Pyridaben: Release Interim Decision. Pyridaben is a selective contact insecticide and miticide (acaricide) used to control various types of phytophagous mites and some insects (*e.g.*, thrips, white fly, and aphids). Pyridaben is formulated as soluble concentrates, emulsifiable concentrates, and wettable powders in water-soluble packets. Products containing pyridaben are registered for use on a variety of vegetable and fruit commodities, as well as greenhouse and commercially grown ornamentals. There are no dietary, residential, or non-occupational spray drift risks of concern. There are potential risks of concern for some occupational handler and occupational post-application scenarios. Mitigation measures include additional personal protective equipment and extended re-entry intervals for select activities and use sites. There are potential ecological risks of concern to birds, mammals, fish, and terrestrial and aquatic invertebrates. Risk to estuarine/marine fish and terrestrial and aquatic plants are not expected from the registered uses of pyridaben. Mitigation measures include mandatory and advisory spray drift mitigation, buffer standardization, and insecticide and acaricide resistance management. Registrants have agreed to the label changes. Anticipated stakeholder reaction: Minimal stakeholder reaction anticipated; however, there may be concern regarding the REIs depending on the final decision.

Trifluralin: Release Interim Decision. Trifluralin is a pre-plant/pre-emergent dinitroaniline herbicide registered for agricultural and non-agricultural uses. There are no dietary, residential, aggregate, spray drift, bystander volatilization, or occupational non-cancer risks of concern. Cancer assessments were conducted for dietary, residential (handler and post-application), non-occupational bystander, aggregate, and occupational (handler and post-application) scenarios as trifluralin is classified as a “Group C, Possible Human Carcinogen”. No risks of concern were identified. There are potential ecological risks of concern for mammals, birds, fish, and aquatic invertebrates on a chronic exposure basis. Potential ecological risks were also identified for aquatic and terrestrial plants. Mitigation measures include mandatory spray drift, herbicide resistance management, and soil incorporation language. The registrants have agreed to these label changes. Anticipated stakeholder reaction: Stakeholder reaction is expected to be positive due to clarification of the soil incorporation and spray drift label language.

Uniconazole-P: Release Interim Decision. Uniconazole-P is a plant growth regulator. Products containing uniconazole-P are registered for use on ornamental plants and fruiting vegetables (Crop Group 8) transplants in commercial greenhouses and glasshouses (where plants are grown in containers). There are no residential or outdoor uses. The agency did not identify human health or ecological risks of concern in the human health and ecological risk assessments. In addition, the agency concluded that the currently registered uses of uniconazole-P are not reasonably expected to cause direct or indirect effects to federally listed, threatened, and endangered species. EPA made a No Effect determination for all listed species, as well as a No Habitat Modification determination for all designated critical habitats for the currently registered uses of uniconazole-P. No mitigation is required in the ID. Anticipated stakeholder reaction: Minimal stakeholder reaction anticipated.

Zoxamide: Release Interim Decision. Zoxamide is a fungicide registered for use on potatoes, tomatoes, cucurbits and grapes. There are no registered non-agricultural uses. No significant human health risks of concern were identified by the agency. There were potential ecological risks of concern identified for freshwater fish, estuarine/marine invertebrates, and non-vascular aquatic plants. However, these risks were identified under specific scenarios and include uncertainties. The proposed label changes included standardizing pesticide resistance management language, updating spray drift language on current labels, and adding water soluble packaging instructions. The registrant agreed with the label changes. Anticipated stakeholder reaction: Minimal stakeholder reaction anticipated.

## **Q1 Antimicrobial ID Summaries**

Alkyl imidazolines: Release Interim Decision. 1-(2-Hydroxyethyl)-2-alkyl-2-imidazoline (alkyl imidazoline) is registered for use as a microbiocide in fuel oil to inhibit sludge formation, disperse existing sludge, and to control filter-plugging bacteria and fungi in fuel oil storage tanks and feed lines. The product is loaded and applied through a closed delivery system. Alkyl imidazoline has moderate oral toxicity, but due to its use pattern and application method, the potential for exposure to handlers is minimal. Exposure to humans via drinking water is not anticipated when used according to label. Alkyl imidazoline is highly to very highly toxic to aquatic organisms (including plants) but practically nontoxic to avian species. Since the chemical is only used in fuel storage tanks employing a closed system, exposure to nontarget organisms including pollinators in the environment is expected to be minimal when used according to the directions on the label. The Agency is making a “no effects” determination under ESA. Label changes are being proposed to update respirator language. No additional mitigation is being added. There were no public comments received on the PID. Anticipated stakeholder reaction: Minimal stakeholder reaction anticipated.

o-Benzyl-p-chlorophenol: Release Interim Decision. There are 24 registered products across 3 active ingredients: o-benzyl-p-chlorophenol, potassium 2-benzyl-4-chlorophenate, and sodium 2-benzyl-4-chlorophenate. Products formulated with o-benzyl-p-chlorophenol and sodium 2-benzyl-4-chlorophenate are registered for use as disinfectants, fungicides/fungistats, tuberculocides, sanitizers, virucides, bacteriocides/bacteriostats, microbiocides/microbiostats and algacides and can be used on various residential and commercial hard non-porous surfaces. The one potassium 2-benzyl-4-chlorophenate end-use product is registered for use in industrial recirculating cooling water and process water systems. There is low toxicity for humans by oral, dermal, and inhalation routes; however, the registered products are severely irritating to skin and eye and identified as a positive dermal sensitizer. There are indirect dietary, dermal, and inhalation exposures from surface cleaners, and these actives are classified as group C possible human carcinogen. O-benzyl-p-chlorophenol is highly toxic to freshwater invertebrates and fish. A down the drain analysis for the water-cooling tower use pattern resulted in acute and chronic risks of concern to freshwater fish and invertebrates. Label changes are being proposed and have been accepted by the registrants that limit the use of maintenance treatment for two methods, restrict the size of the cooling tower, and clarify the type of system and need for appropriate management plan. There were no public comments received on the PID. Anticipated stakeholder reaction: Minimal stakeholder reaction anticipated.

TTPC: Release Interim Decision. Tri-n Butyl Tetradecyl Phosphonium Chloride (TTPC) is an algicide, fungicide, and bacteriocide. TTPC is formulated as a soluble and flowable concentrate and is currently registered for use in industrial processes and water systems such as commercial and industrial cooling towers, evaporative condensers, heat exchange water systems, evaporative coolers, dairy sweetwater systems, industrial process water systems, brewery pasteurizers, can warmers, hydrostatic sterilizers and retorts, air washing systems equipped with a mist eliminator, and industrial air scrubbing systems as well as enhanced oil recovery systems. There are no human health risks of concern. TTPC is very highly toxic to aquatic organisms and slightly to moderately toxic to birds. However, TTPC is expected to sorb strongly to sediment and sludge and no significant release of TTPC into the aquatic or terrestrial environments is expected. Therefore, the Agency is making a “no effect” finding for ESA on the use of TTPC in industrial processes and water systems. No additional risk mitigation measures are needed at this time because no human health or ecological risks of concern for identified uses of TTPC were identified in the DRA. There were no public comments received on the PID and therefore no changes made to the ID. Anticipated stakeholder reaction: Minimal stakeholder reaction anticipated.

Zinc and Zinc Salts: Release Interim Decision. The zinc and zinc salts case contains four active ingredients which are metallic zinc and the three zinc salts: zinc chloride, zinc oxide, and zinc sulfate monohydrate (or zinc sulfate). Zinc salts are used as herbicides to control the growth of moss on outdoor structures, walkway, patios, decks, shingles, foundations, and lawns. Additionally, zinc sulfate is used in swimming pools, spas, and hot-tubs to control algae, bacteria, and organic contaminants. Zinc oxide and zinc metal have products with uses such as industrial preservatives incorporated into ceramics, ceramic glazes, porcelain enamels, glasses, plastics and plastic composite materials, coatings, fibers, carpets, and adhesives and sealants to inhibit the growth of bacteria, mold, mildew, and fungi. There is one antifoulant coating product which contains zinc. Zinc oxide is also used as a component of the ammoniacal copper zinc arsenate (ACZA) wood preservative. There are no human health risks of concern. Zinc and zinc salts are not toxic to birds or mammals and have varied toxicity to aquatic organisms. However, environmental exposure is expected to be low and to be indistinguishable from background levels of zinc, oxide, sulfate, and chloride. The agency has no expectation for the registered antimicrobial uses of zinc salts to cause direct or indirect adverse effects to listed species. Therefore, the agency has made a “no effect” determination for ESA. New label language is being required for formulations used to treat commercial and residential swimming pools, hot tubs, and spas. This label language will add information on application rates, clarify the environmental hazards statement, and instruct users on how to drain treated water. Products with wood preservative uses are also being required to include more information in their directions for use. Other than these changes to label language, no additional risk mitigation measures are needed at this time. AD received 5 public comments on the PID, and these comments will not change the conclusions in the ID.

Anticipated stakeholder reaction: Minimal stakeholder reaction anticipated.

## Q1 BPPD ID Summaries

Octenol: Release Interim Decision. The active ingredient is registered for use as an insect attractant. Octenol is an aliphatic alcohol by-product that is produced and emitted by animals and plants. Octenol modifies the behavior of some insects when used as an active ingredient in pesticides. The primary use of products containing Octenol is as an attractant for mosquitoes, biting flies, and other biting insects. Insects are attracted to Octenol emissions through olfactory sensory neurons located in the insects' antennae. Octenol does not kill insects and is typically used in conjunction with carbon dioxide and electronic devices. Octenol and carbon dioxide are contained in a multilayer, plastic laminate container. The container is placed in an electronic device and the compounds release into the atmosphere by volatilization. Insects are attracted to emissions of octenol, lured to the device, and killed upon contact with the electronic device. EPA's database continues to support the use of this biochemical used to attract flying biting insects (mosquito) which are subsequently killed with an associated electronic device. The EPA's qualitative risk assessment is considered sufficient to characterize the risks of this active ingredient. No mitigation or labeling changes are needed for the registration review of Octenol. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

3-[N-butyl-N-acetyl]-aminopropionic acid, ethyl ester (IR3535): Release Interim Decision. 3-[N-butyl-N-acetyl]-aminopropionic acid, ethyl ester (IR3535) is structurally related to the naturally occurring  $\beta$ -alanine; pesticide products containing IR3535 are biochemicals, registered for use as topical insect repellents on humans. The common mode of action of IR3535 is non-toxic. Blood-sucking arthropods rely on sensory receptors to locate their hosts and are attracted to several cues emitted by their host, such as carbon dioxide, lactic acid, body heat, humidity, ammonia, and phenols. The active ingredient, IR3535, interferes with the arthropods' ability to locate their host by masking these cues. Pesticide products containing IR3535 are registered for use to repel mosquitoes, deer ticks, body lice, and biting flies, which are public health pests. EPA's database continues to support the use of this biochemical used as an insect repellent in end-use products formulated to be applied to exposed human skin. The EPA's qualitative risk assessment is considered sufficient to characterize the risks of this active ingredient. No mitigation or labeling changes are needed for the registration review of IR3535. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

*Chondrostereum Purpureum* isolate PFC 2139: Release Interim Decision. The active ingredient is registered for use as a microbial herbicide used to prevent regrowth of trees. Products containing *Chondrostereum purpureum* are naturally-occurring fungal plant pathogens. As a facultative saprophyte it can be pathogenic to stressed trees and shrubs, especially through wounds. The active ingredient, *Chondrostereum purpureum* strain PFC 2139, invades its tree host through fresh-cut wounds and grows in the xylem and is a weak pathogen affecting only compromised trees. The EPA's qualitative risk assessment is considered sufficient to characterize the risks of this active ingredient. No mitigation or labeling changes are needed for the registration review of *Chondrostereum Purpureum*. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

3-Methyl-2-cyclohexen-1-one (3-MCH): Release Interim Decision. The active ingredient is registered for use in forests as a repellent to protect live trees from Spruce beetles and Douglas fir beetles. Spruce and Douglas fir beetles congregating on dead and dying Douglas fir and Spruce trees which give off a chemical known as seudenol, a chemical that attracts more beetles to the tree. As the insects gather on the trees in large numbers they are stimulated to reproduce. When the number of beetles on a tree reaches a critical density, the beetles then produce 3-MCH, a pheromone that repels additional beetles, thereby protecting

the food source needed by the initial beetles and their offspring. The beetles produce the 3-MCH by making a slight chemical alteration in seudenol, which changes from a beetle attractant to the repellent, 3-MCH. Small amounts of 3-MCH are attached to the North side of dead and living trees in polymeric dispensers. Polymeric dispensers containing 3-MCH can also be attached to surrounding logs and shrubbery or applied to the soil at the base of trees as flakes. EPA's database continues to support the use of this biochemical as a repellent against the Spruce beetle and Douglas fir beetle in non-agricultural forestry and Residential settings. The EPA's qualitative risk assessment is considered sufficient to characterize the risks of this active ingredient. No mitigation or labeling changes are needed for the registration review of 3-MCH. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

p-Menthane-3,8-diol (PMD): Release Interim Decision. The active ingredient is registered for use as a topical repellent for biting pest, including: black flies, no-see-ums, chiggers, ticks, and gnats. The specific mechanism of repellency is unknown, but it is believed that PMD interferes with host-finding mechanism of blood-feeding arthropods. Such insects rely on sensory receptors to locate their hosts and are attracted to several cues emitted, such as carbon dioxide, lactic acid, body heat, humidity, ammonia, and phenols. PMD interferes with the arthropods' ability to locate their host by masking these cues. Products containing PMD are formulated into lotions, sprays, and towelettes applied to exposed human skin and clothing to repel pests. The EPA's qualitative risk assessment is considered sufficient to characterize the risks of this active ingredient; and EPA's database continues to support the use of this biochemical. No mitigation or labeling changes are needed for the registration review of PMD. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.

Straight Chain Lepidopteran Pheromones (SCLPs): Release Interim Decision. Straight Chain Lepidopteran Pheromones (SCLPs) are biochemicals registered for use as a mating disruptor on food crops and ornamentals. Products containing SCLPs are arthropod semiochemicals registered for use as mating behavior disruptors for certain butterflies and moths whose larvae destroy crops and trees via herbivory. These pesticide products contain synthetic versions of these naturally occurring compounds. When the SCLP pesticide product releases pheromones into the air where males are looking for females, the males become confused and cannot easily locate the females. As a result, many of the females do not mate and lay eggs, and there are fewer offspring than usual. This mating disruption is a non-toxic mode of action. The EPA's qualitative risk assessment is considered sufficient to characterize the risks of these active ingredients. No mitigation or labeling changes are needed for the registration review of SCLPs. Anticipated stakeholder reaction: Minimal stakeholder reaction is anticipated.